

Appl. No. 10/633,048
Amendment dated: November 28, 2005
Reply to OA of: August 26, 2005

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A DNA vaccine, comprising containing tumor-associated gene and cytokine gene made by incorporating into a vector having a suitable promoter or translation regulatory sequence at least:

at least a fragment of a tumor-associated gene; and

at least a fragment of a cytokine gene

wherein said at least a fragmend of a tumor-associated gene and said at least a fragment of a cytokine gene are incorporated into a vector having a suitable promoter or a translation regulatory sequence.

2(currently amended). The DNA vaccine according to claim 1, wherein said suitable promoter is a mammalian ~~expression~~ promoter.

3(currently amended). The DNA vaccine according to claim 2, wherein said promoter ~~comprises~~ is a CMV promoter, a PSV promoter or a LTR promoter.

4(original). The DNA vaccine according to claim 1, wherein said translation regulatory sequence is an IRES segment.

5(currently amended). The DNA vaccine according to claim 1, wherein the expression of said tumor-associated gene and said cytokine gene are activated by one or more promoters.

6(original). The DNA vaccine according to claim 1, wherein said tumor-associated gene comprises an oncogene.

7(original). The DNA vaccine according to claim 6, wherein said oncogene comprises neu, met or ras oncogenes.

8(original). The DNA vaccine according to claim 1, wherein said tumor-associated gene comprises a complete or truncated gene segment.

9(original). The DNA vaccine according to claim 1, wherein said tumor-associated gene comprises a truncated segment of N'-neu gene encoding extracellular domain of neu protein.

10(original). The DNA vaccine according to claim 1, wherein said cytokine gene comprises Interleukin (IL)-2, Interleukin (IL)-4 or GM-CSF gene.

11(currently amended). The DNA vaccine according to claim 1, wherein said cytokine gene comprises the mature full length gene segment of Interleukin-2.

12(currently amended). The DNA vaccine according to claim 1, wherein ~~the genes contained in are arranged in an order that the tumor-associated gene is in front upstream or behind downstream~~ of the cytokine gene.

13(currently amended). The DNA vaccine according to claim 1, wherein said tumor-associated gene and said cytokine gene are constructed into a fusion gene controlled by the same promoter.

14(currently amended). The DNA vaccine according to claim 1, wherein said tumor-associated gene and said cytokine gene are constructed in such a way that they are two independent genes controlled respectively by two independent promoters.

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15(currently amended). The DNA vaccine according to claim [[1]] 4, wherein said tumor-associated gene and said cytokine gene are constructed in such a way that they are two independent genes regulated respectively by said promoter and said IRES segment.

16(original). The DNA vaccine according to claim 1, wherein it is a DNA vaccine containing N'-neu-IL-2 fusion gene controlled by a CMV promoter.

17(original). The DNA vaccine according to claim 1, wherein said DNA vaccine is carried by retroviral vector, adenoviral vector, adeno-associated viral vector, or liposome, or said DNA vaccine is administered directly in the form of DNA.

18(original). The DNA vaccine according to claim 1, wherein it is administered by way of subcutaneous injection, intramuscular injection, oral administration, spraying or gene gun injection.

19-36(canceled).